



"Committed to the protection and promotion of public health."

Gallatin City-County Health Department

Hantavirus Infection (Hantavirus Pulmonary Syndrome or HPS)

WHAT IS IT?

- Hantavirus Pulmonary Syndrome (HPS) is a severe illness caused by infection with the *Sin Nombre* virus.
- Humans become infected from exposure to the droppings of wild rodents that carry the virus.
- In Montana State, the deer mouse (*Peromyscus maniculatus*) is the main carrier of hantavirus. Usually 1-2 hantavirus cases are reported each year in Montana State of which about one-fourth have been fatal.
- While most hantavirus cases occur in rural areas, about one-quarter of cases have happened in urban areas.
- In other parts of the U.S. and in other parts of the world, other rodents also carry hantaviruses.

WHAT ARE THE SYMPTOMS?

- Symptoms develop between approximately one week and six weeks after exposure to mouse droppings that are contaminated with the virus.
- Early symptoms are fever, chills, weakness, and muscle aches. The muscle aches are often severe and can involve the thighs, hips, back and shoulders.
- Other symptoms may include headache, lightheadedness, dizziness, abdominal pain, nausea, vomiting and diarrhea.
- In severe cases, lung involvement with coughing and shortness of breath and low blood pressure follow the early symptoms by a few days to about a week.
- There is no specific treatment or vaccine for hantavirus infection. Early recognition of symptoms and prompt evaluation by a health care provider are important so that supportive care can be provided.

HOW IS A PERSON EXPOSED TO HANTAVIRUSES?

- Hantavirus infections are spread to people when viruses in rodent urine, droppings, or saliva are stirred into the air and breathed in.
- A person may be exposed to hantaviruses by actions that raise dust into the air, such as disturbing nests or cleaning areas where infected mice have been.
- Not all deer mice are infected with hantaviruses and infected mice carry the virus without appearing sick. The number of infected mice probably changes from year to year based on environmental conditions.

WHAT DO DEER MICE LOOK LIKE?

- The deer mouse is about six inches long, from the nose to the tip of its tail. It is yellow-brown to gray-white on top with a white belly and feet, large ears, and a furry tail that is white on the underside.



- House mice (*Mus musculus*) are gray to light brown on top, light brown (not white) on the underside, and have scales showing on the tail.
- Deer mice live in all parts of Montana, and while found mainly rural areas can also be found in urban areas.

CAN I GET HANTAVIRUS FROM ANOTHER PERSON OR ANIMAL?

- No. Only rodents carry the virus. There have been no cases of person-to-person spread of hantavirus infection in the U.S.

HOW CAN I AVOID EXPOSURE TO HANTAVIRUS?

- Keep mice away from your home, workplace, and places such as cabins, sheds, barns, garages and storage facilities.
- Clear the area within 100 feet of your house of junk piles, debris or old cars where mice will nest. Keep weeds, brush and grass cut.
- Plug up, screen or cover all openings into your home that a mouse might get through (larger than 1/4 inch wide). Use steel wool to plug holes around the base of buildings. Stack firewood, lumber and hay 12 inches off the ground and as far away from the house as possible.
- Remove food sources and nesting places.
- Don't store pet food uncovered or in open feeding dishes. Store grains and animal feed in containers with tight fitting covers.
- Use a plastic trash can with a lid for kitchen garbage and food scraps. Tightly cover outdoor garbage cans and raise them 12 inches off the ground.
- Be careful when trapping mice and other wild rodents. If you have a rodent problem, consider hiring a professional pest-control service.
- Never touch live mice. Use spring-loaded mousetraps. If you use poison bait, follow the directions carefully. Do not leave poison bait where small children and pets have access to it. Wear gloves and dust masks when handling dead mice.

WHAT PRECAUTIONS SHOULD I USE WHEN WORKING, HIKING OR CAMPING OUTDOORS?

- Avoid contact with rodents. Do not disturb rodent dens or nests.
- Stay out of cabins or shelters until they have been disinfected and aired out.
- Pitch tents well away from garbage cans, woodpiles or other places that rodents live.
- Avoid any areas where you see burrows or rodent droppings.
- Do not sleep on the bare ground. Use a tent with a floor.
- Keep food and food scraps in tightly covered containers.
- Clean dishes and cooking utensils right after using them.

HOW DO I CLEAN AREAS WHERE MICE HAVE BEEN?

If you are cleaning out a building that has been closed up, such as a cabin, shed, or garage, or areas where rodent nesting material have been found, follow these steps.

1. Air out the building for at least 30 minutes by opening windows and doors. Leave the building while it is airing out.
2. Wear latex or rubber gloves and a dust mask while cleaning.
3. Avoid raising dust that may spread the virus through the air: Do not vacuum, sweep or dust. Carefully wet down areas with disinfectant before cleaning.
4. Use rags, sponges and mops that have been soaked in the disinfectant solution to wipe down counter tops, cabinets and drawers, mop floors and baseboards.
5. Mix a solution of 1 cup bleach to 10 cups water or use a household disinfectant.
6. Steam clean carpets, rugs, and upholstered furniture.
7. Thoroughly spray or soak any dead mice, droppings, or nesting areas with disinfectant or bleach solution.
8. Wash clothes and bedding in hot water and detergent. Set the dryer on high.
9. To dispose of contaminated items, including dead mice, put them in a plastic bag. Seal the bag and put it in another plastic bag. Seal the outer bag and put it in your outdoor garbage can.
10. When you are done, disinfect or throw away the gloves you used. Wash your hands or shower with soap and hot water.

For more information:

Centers for Disease Control & Prevention
<http://www.cdc.gov/ncidod/diseases/hanta/hps>

Gallatin City-County Health Department
<http://www.gallatin.mt.gov/health>

**Report all Gallatin County cases to
Gallatin City-County Health Department
by calling (406) 582 - 3100.**